

WE CLAIM:

1           1. A vented hollow plastic block for use in a wall section or panel, said plastic block  
2           comprising in combination;  
3           a) a pair of members, each of said members including a continuous side wall, said  
4           side wall of one of said members including a lip and said side wall of the other of said members  
5           including a shelf for receiving and mating with said lip and forming a junction;  
6           b) a sheet adapted for partly reflecting solar radiation, said sheet of material being  
7           located interior of and extending across said plastic block, said sheet including a first layer of a  
8           film, a second layer of a film and a coating layer disposed intermediate said first and second  
9           layers of film; and  
10           c) a vent extending through one of said side walls.

1           2. The vented hollow plastic block as set forth in Claim 1 wherein the said vent has  
2           an area equivalent to a circle having a diameter in the range of about 0.005 inches to about 0.25  
3           inches.

1           3. The vented hollow plastic block as set forth in Claim 2 wherein said vent has an  
2           area equivalent to a circle having a diameter in the range of about 0.012 inches to about 0.015  
3           inches.

1           4. The vented hollow plastic block as set forth in Claim 1 wherein each of said  
2           members is made of translucent plastic material.

1           5.     The vented hollow plastic block as set forth in Claim 1 wherein each of said  
2     members is made of transparent plastic material.

1           6.     The vented hollow plastic block as set forth in Claim 1 wherein said sheet defines  
2     two compartments within said plastic block.

1           7.     The vented hollow plastic block as set forth in Claim 6 wherein said sheet  
2     includes a slot adapted to provide fluid communication between said two compartments.

1           8.     The vented hollow plastic block as set forth in Claim 7 wherein said slot is  
2     essentially coincident with said vent.

1           9.     The vented hollow plastic block as set forth in Claim 1 wherein said sheet is  
2     disposed at said junction.

1           10.    The vented hollow plastic block as set forth in Claim 9 wherein the peripheral  
2     edge of said sheet is coincident with said shelf and retained thereagainst by said lip.

1           11.    The vented hollow plastic block as set forth in Claim 10 including an adhesive for  
2     securing said sheet in place within said plastic block.

1           12.    The vented hollow plastic block as set forth in Claim 9 including an adhesive for  
2   securing said sheet in place within said plastic block.

1           13.    The vented hollow plastic block as set forth in Claim 1 wherein said first layer of  
2   film is a clear polyester film.

1           14.    The vented hollow plastic block as set forth in Claim 13 wherein said first layer of  
2   film is about 6.5mil thick.

1           15.    The vented hollow plastic block as set forth in Claim 1 wherein said coating layer  
2   is a spectrally selective layer.

1           16.    The vented hollow plastic block as set forth in Claim 15 wherein said coating  
2   layer is a nickel alloy sputter coating layer.

1           17.    The vented hollow plastic block as set forth in Claim 1 wherein said second layer  
2   of film is a clear polyester film.

1           18.    The vented hollow plastic block as set forth in Claim 17 wherein said second layer  
2   of film is about 0.25mil thick.

1           19.    The vented hollow plastic block as set forth in Claim 13 wherein said coating

2 layer is a nickel alloy sputter coating layer.

1 20. The vented hollow plastic block as set forth in Claim 19 wherein said second layer  
2 of film is a clear polyester film.

1 21. The vented hollow plastic block as set forth in Claim 1 wherein the U-factor of  
2 said plastic block is equal to or less than about 0.35.

1 22. The vented hollow plastic block as set forth in Claim 1 wherein the solar gain  
2 performance is equal to or less than about 0.39.

1 23. A vented hollow plastic block for use in a wall section, said plastic block  
2 comprising in combination;

3 a) a pair of members, each of said members including a continuous side wall and  
4 defining an edge, said edge of one of said members being mated with said edge of the other of  
5 said members to form a junction;

6 b) a vent disposed in at least one of said side walls, said vent having an area  
7 equivalent to a circle having a diameter in the range of about 0.005 inches to about 0.025 inches;

8 c) a sheet disposed within said plastic block and supported by said side wall of at  
9 least one member of said pair of members and adapted to define two compartments within said  
10 plastic block, said sheet including a first layer of a film, a second layer of a film and a coating  
11 layer disposed intermediate said first and second layers of film; and

1        24. The vented hollow plastic block as set forth in Claim 23 wherein said aperture has  
2        an area equivalent to a circle having a diameter in the range of about 0.012 inches to about 0.015  
3        inches.

1           25. The vented hollow plastic block as set forth in Claim 23 wherein said vent and  
2           said further vent are substantially coincident.

1                   26. The vented hollow plastic block as set forth in Claim 25 wherein said vent and  
2                   said further vent are juxtaposed with one another.

1                   27. The vented hollow plastic block as set forth in Claim 23 wherein each of said  
2 members is made of translucent plastic material.

1                   28.     The vented hollow plastic block as set forth in Claim 23 wherein each of said  
2     members is made of transparent plastic material.

1           29.     The vented hollow plastic block as set forth in Claim 23 wherein each of said  
2     members is square in planform and wherein said sheet is square in planform.

1           30.    The vented hollow plastic block as set forth in Claim 23 wherein said first layer of  
2           film is a clear polyester film.

1           31.    The vented hollow plastic block as set forth in Claim 30 wherein said first layer of  
2           film is about 6.5mil thick.

1           32.    The vented hollow plastic block as set forth in Claim 23 wherein said coating  
2           layer is a nickel alloy sputter coating layer.

1           33.    The vented hollow plastic block as set forth in Claim 32 wherein said coating  
2           layer is a spectrally selective layer.

1           34.    The vented hollow plastic block as set forth in Claim 23 wherein said second layer  
2           of film is a clear polyester film.

1           35.    The vented hollow plastic block as set forth in Claim 34 wherein said second layer  
2           of film is about 0.25mil thick.

1           36.    The vented hollow plastic block as set forth in Claim 23 wherein said coating  
2           layer is a nickel alloy sputter coating layer.

1           37.    The vented hollow plastic block as set forth in Claim 36 wherein said second layer

2 of film is a clear polyester film.

1 38. The vented hollow plastic block as set forth in Claim 23 wherein the U-factor of  
2 said plastic block is equal to or less than about 0.35.

1 39. The vented hollow plastic block as set forth in Claim 23 wherein the solar gain  
2 performance is equal to or less than about 0.39.

1 40. A vented hollow translucent/transparent plastic block of use in a wall section, said  
2 plastic block comprising in combination;

3 a) a pair of members, each of said members including a continuous side wall;  
4 b) a sheet extending across the interior of said plastic block, said sheet including a  
5 first layer of a film, a second layer of a film and a coating layer disposed intermediate said first  
6 and second layers of film;

7 c) said side wall of one of said members being in sealed engagement with said  
8 side wall of the other of said members; and

9 d) a vent disposed in one of said side walls and adapted to be in fluid  
10 communication with the interior of said plastic block.

1 41. The vented hollow translucent/transparent plastic block as set forth in Claim 40  
2 wherein said vent having an area equivalent to a circle having a diameter in the range of about  
3 0.005 inches to about 0.25 inches.

1           42.    The vented hollow translucent/transparent plastic block as set forth in Claim 41  
2    wherein said vent has an area equivalent to a circle having a diameter in the range of about 0.012  
3    inches to about 0.015 inches.

1           43.    The vented hollow translucent/transparent plastic block as set forth in Claim 40  
2    wherein said sheet defines two compartments within said plastic block.

1           44.    The vented hollow translucent/transparent plastic block as set forth in Claim 43  
2    wherein said sealed engagement is adapted to support said sheet.

1           45.    The vented hollow translucent/transparent plastic block as set forth in Claim 44  
2    wherein said vent is formed at the junction of said side walls including a further vent disposed in  
3    said sheet.

1           46.    The vented hollow translucent/transparent plastic block as set forth in Claim 45  
2    wherein said further vent is substantially coincident with said vent.

1           47.    The vented hollow plastic block as set forth in Claim 40 wherein said first layer of  
2    film is a clear polyester film.

1           48.    The vented hollow plastic block as set forth in Claim 47 wherein said first layer of

2 film is about 6.5mil thick.

1 49. The vented hollow plastic block as set forth in Claim 40 wherein said coating  
2 layer is a spectrally selective layer.

1 50. The vented hollow plastic block as set forth in Claim 49 wherein said coating  
2 layer is a nickel alloy sputter coating layer.

1 51. The vented hollow plastic block as set forth in Claim 40 wherein said second layer  
2 of film is a clear polyester film.

1 52. The vented hollow plastic block as set forth in Claim 51 wherein said second layer  
2 of film is about 0.25mil thick.

1 53. The vented hollow plastic block as set forth in Claim 40 wherein said coating  
2 layer is a nickel alloy sputter coating layer.

1 54. The vented hollow plastic block as set forth in Claim 53 wherein said second layer  
2 of film is a clear polyester film.

1 55. The vented hollow plastic block as set forth in Claim 40 wherein the U-factor of  
2 said plastic block is equal to or less than about 0.35.

1           56.    The vented hollow plastic block as set forth in Claim 40 wherein the solar gain  
2    performance is equal to or less than about 0.39.